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18. A NEW RECORD OF HOST PLANT *EMBELIA ACUTIPETALUM* OF ATLAS MOTH *ATTACUS ATLAS* LINNAEUS FROM KONKAN

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Atlas moth *Attacus atlas* Linnaeus of Family Saturniidae is commonly seen in monsoon in Konkan region. On July 25, 2008, I found five final instar caterpillars of Atlas moth *Attacus atlas* Linnaeus near a small village Kasba, Taluka Sangameshwar, District Ratnagiri. Caterpillars were 110 mm long. All caterpillars were feeding on leaves of *Embelia acutipetalum* (Family Myrsinaceae), a common plant in Konkan (Fig. 1). Local Marathi name of this plant is '*Vavding*'. Many food plants of Atlas moth *Attacus atlas* Linnaeus are known, but there is no reference of this plant and is being reported here as the first record.

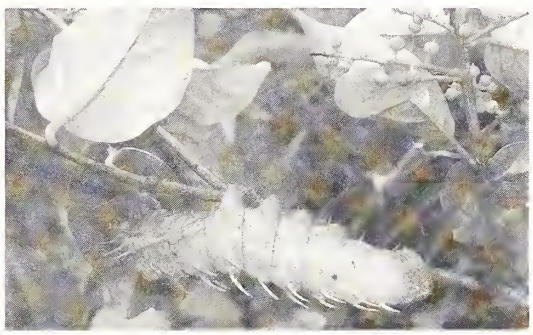

Fig. 1: Final instar caterpillar of *Attacus atlas* feeding on the leaves of *Embelia acutipetalum*

19. ABUNDANCE OF THREE SPECIES OF THE HORSESHOE CRAB ALONG THE COAST OF MALAYSIA

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Horseshoe crabs, popularly known as a 'living fossil', are one of the best-known living animals on Earth. They are important for the pharmaceutical, clinical and food industries, besides being good indicator organisms for monitoring the health of coastal zones. The blue blood of the horseshoe crab has been proved to be of great value medically for the production of lectin (Saito *et al.* 1997) and tachyplesin I (Morvan *et al.* 1997).

In some Asian countries like Singapore, Malaysia, Borneo, the eggs of horseshoe crab are considered as a

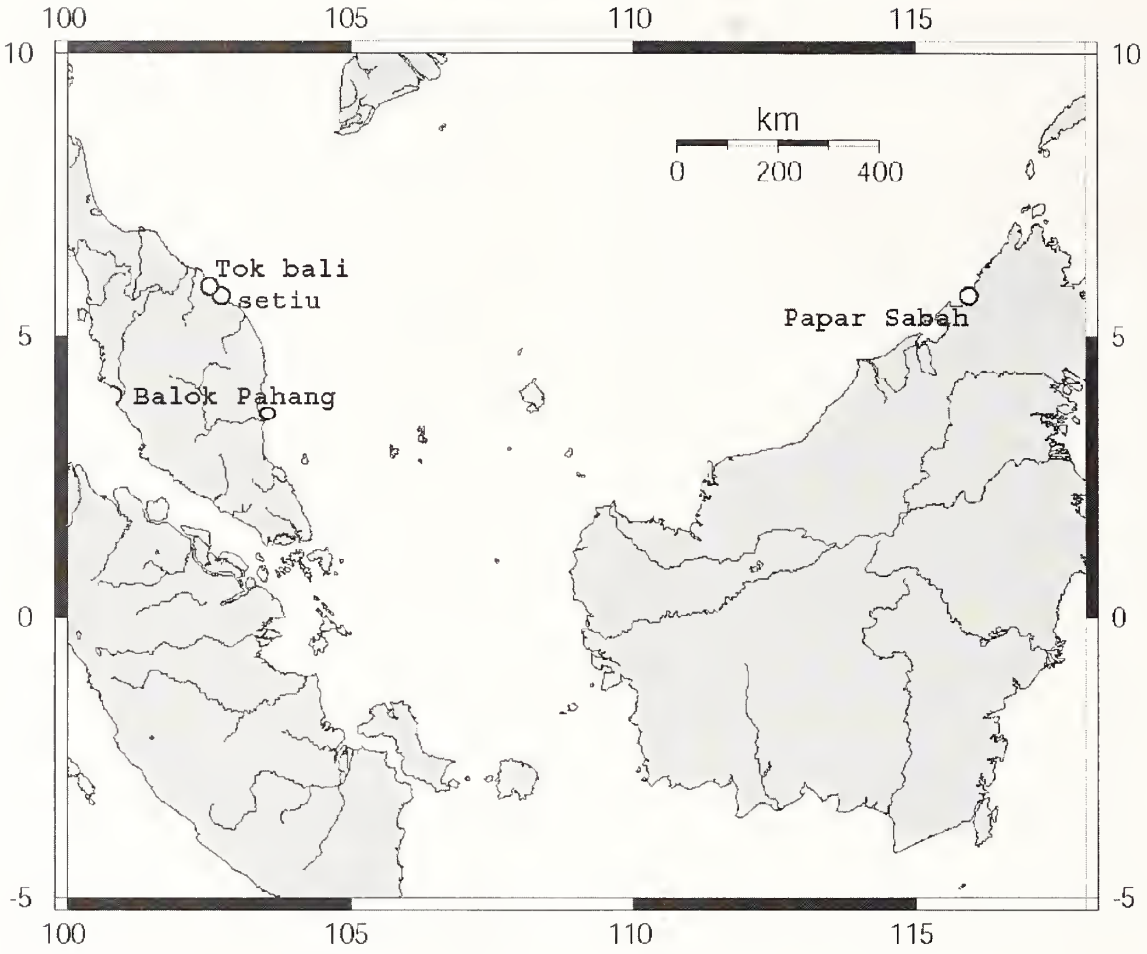

Fig. 1: Location of the collection of Horseshoe Crab specimens

delicacy (Chatterji 1994). The Malaysian Horseshoe Crab, popularly known as '*belangkas*', does not represent a multiple use resource like *Limulus polyphemus* (L) of Delaware, USA. However, they have potential to become important at least for biomedical compounds and eco-tourism industry. In the past, the Malaysian Horseshoe Crab was a neglected animal but due to the committed efforts of the scientists associated with the Institute of Tropical Aquaculture, University Malaysia Terengganu, the scientific value of the horseshoe crab has gone up far more than before. The distribution pattern of the four species of horseshoe crab in the world is discussed in detail by Sekiguchi *et al.* (1976), Botton and Haskin (1984), Chatterji *et al.* (1992) and Chatterji (1994). However, except for one record on co-existence of two species of horseshoe crab along the Indian coast (Chatterji 1999), no report has so far been available that showed the occurrence of three species of horseshoe crab together along the coast of any country. The present communication deals on a report of occurrence of three extant species of the horseshoe crab along the coast of Malaysia.

Live specimens of *Carcinoscorpius rotundicauda* (Latreille) and *Tachypleus gigas* (Müller) were collected from Setiu (5° 42' 60" N; 102° 42' 0" E); Balok (3° 57' 0" N; 100° 48' 0" E) and Tok Bali (5° 53' 11" N; 102° 29' 28" E) respectively (Fig. 1). Live specimens of *Tachypleus tridentatus* (Leach) were collected from Paper Sabah (5° 43' 48" N; 15° 55' 48" E). The specimens were brought to the laboratory and their carapace length (CL), carapace width (CW) and telson length (TL) were recorded up to the nearest mm for both the sexes separately. The average body weights in gram for both males and females of all the three species were also recorded.

Most of the body parts of *T. tridentatus* were approximately 2 times greater than the carapace length, carapace width and telson length of *C. rotundicauda* and *T. gigas* respectively (Table 1). However, body weight of females of *T. tridentatus* was 48.81 and 39.87 times more as compared to *C. rotundicauda* and *T. gigas* respectively (Table 1).

Horseshoe crabs have been reported to follow a uni-species distribution pattern (Botton and Haskin 1984), which may be due to habitat preference. Chatterji (1999) reported for the first time a sympatric distribution of *C. rotundicauda* and *T. gigas* along the north-east coast of Orissa in India. Mikkelsen (1988) reported the sympatric

Table 1: A comparison of different average body parts and body weight of *T. tridentatus* with *C. rotundicauda* and *T. gigas*

Name of species	Sex	Carapace length (mm)	Carapace width (mm)	Telson length (mm)	Body weight (gm)
C. rotundicauda	Male	242	311	240	184.1
	Female	303	292	211	488.1
T. gigas	Male	199	205	169	145.6
	Female	248	219	146	398.7
T. tridentatus	Male	365	410	280	2,410.5
	Female	510	500	340	6,900.6

distribution of *T. tridentatus* and *T. gigas* in Hong Kong, whereas Chiu and Morton (1999) observed the occurrence of *T. tridentatus* and *C. rotundicauda* along these coasts. The mature pairs of all the extant species of the horseshoe crab come to the shore for breeding purpose (Sekiguchi *et al.* 1977).

C. rotundicauda was found along all the three sampling sites, with maximum population along the coast of Tok Bali. The maximum congregation of *T. gigas* was reported along the coast of Balok (Dr. Annie Christianus pers. comm.). It is surprising to note that though the density of *T. tridentatus* was reported to deplete considerably in Japan (Dr. Glenn Gauvry pers. comm.), a high density of this species was found along the coast of Sabah in eastern Malaysia. The depletion of *T. tridentatus* population along the coast of Japan might be due to destruction and reclamation of breeding beaches causing significant migration of this species towards other undisturbed suitable beaches. Our suggestion is also supported by Shuster *et al.* (2003). This could be one of the reasons for *T. tridentatus* for changing their breeding grounds and migrating towards undisturbed beaches of Malaysia for their active spawning. The present information will help environmentalists to implement suitable policies to protect the important breeding beaches for the survival of these three species of horseshoe crab along the Malaysian coast.

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20. FIRST RECORD OF THE MANGROVE ASSOCIATE *DERRIS TRIFOLIATA* LOUR. FROM GUJARAT

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During recent investigations on the mangrove diversity in southern Gujarat, a climber was found growing within the mangrove vegetation of Purna and Varoli estuaries (Fig. 1). Specimens collected from the locations were identified as *Derris trifoliata* Lour. It was sent to experts who confirmed its identity and is thus being reported as the first record of its distribution from the mangrove forests of Gujarat.

Derris trifoliata Lour. is an erect shrub or a rambling climber growing to a length of up to 15 m. The leaves are compound with mostly 3 leaflets with a rounded base and